

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-28 (canceled)

Claim 29 (original): A semiconductor device comprising:

a substrate having a gate electrode formed at an upper portion of the substrate, a source and a drain formed at a lower portion of both sides of said gate electrode; and

an insulating layer continuously formed on the substrate and the gate electrode, the insulating layer being formed by (a) flowing the oxidizing gas at the oxidizing gas flow rate, (b) flowing the first carrier gas at the first carrier gas flow rate while carrying a first impurity including boron flowing at a first impurity flow rate, (c) flowing the second carrier gas at the second carrier gas flow rate while carrying a second impurity including phosphorus flowing at a second impurity flow rate, and (d) flowing a silicon source material at a silicon source flow rate,

wherein, for the insulating layer composition, a ratio of the oxidizing gas flow rate, the first carrier gas flow rate, the second carrier gas flow rate, the silicon source flow rate,

the first impurity flow rate, and the second impurity flow rate is about 2.00 - 2.50 : 0.70 - 0.95 : 1 : 0.15 - 0.25 : 0.040 - 0.045 : 0.013 - 0.014, and wherein a flow rate of the second carrier gas is at least 4,000 sccm.

Claim 30 (original): The semiconductor device as claimed in claim 29, wherein the oxidizing gas is one selected from a group consisting of oxygen gas, ozone gas and a mixture thereof, the first carrier gas is a nitrogen gas, the second carrier gas is a helium gas, the silicon source material is tetraethylorthosilicate (TEOS), the first impurity is one selected from a group consisting of triethylborate (TEB), trimethylborate (TMB), and a mixture thereof, and the second impurity is one selected from a group consisting of triethylphosphate (TEPO), trimethylphosphate (TMPO) and a mixture thereof.

Claim 31 (original): The semiconductor device as claimed in claim 29, further comprising an etch stop layer formed on the substrate and underlying the insulating layer.

Claim 32 (original): The semiconductor device as claimed in claim 31, further comprising an undoped insulating layer interposed between the etch stop layer and the insulating layer.

Claim 33 (original): The semiconductor device as claimed in claim 32, wherein, for the undoped insulating layer composition, the ratio of the oxidizing gas flow rate, the first carrier gas flow rate, the second carrier gas flow rate, and the silicon source flow rate is about 2.00 - 2.50 : 0.70 - 0.95 : 1 : 0.15 - 0.25.